HEALTH SITUATION IN ASSAM

- A STATISTICAL PROFILE -

By

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PREFACE

The main objectives of this document are to provide a broad framework for discussion on the status of health in Assam and identify key concerns for concentrated action by Non-governmental Organisations (NGOs). This report was presented at the National Health Policy (NHP) Follow-up Workshop, held at Guwahati on 27th and 28th July 1992.

This document comprises of four sections. The first section provides a short introduction; background information on Assam is given in the second section ; the third section analyses the current health status in the State. In addition, in this section, a very comprehensive list comprising of 100 selected items (health and related indicators/data) is also furnished in a tabular form. The last section concludes with a brief discussion on possible action areas for NGOs in the field of health, with particular reference to Assam.

Most of the data compiled in this report is taken from various secondary sources (both published and unpublished): Census Report 1991 (Provisional) and other occasional Publications/Papers of Census; SRS (Sample Registration System); Newsletters, Bulletins and other documents (including Survey of Causes of Death) published from the Registrar General's Office, Ministry of Home Affairs, New Delhi; State Government publications like Departmental Reports from the Health Directorate; Reports from the Directorate of Economics & Statistics (including Statistical Hand book - Assam, 1991), Central Government publications like the Health Information of India, Year-Book, Bulletin on Rural Health Statistics etc. published by the Ministry of Health and Family Welfare; publications of UNICEF like "Analysis of Situation of Children in India", Special Survey/Study reports like "Health Conditions of Mothers and Children - Assam"; and various other unpublished material from different Departments of the State Government (including Public Health Engineering)

The compilation of statistics was not an easy task. One of the most striking elements during this exercise of collection of data was the absence of reliable data on some important variables, as well as multiplicity and widely varying data under one single heading. This caused a lot of confusion regarding reliability, accuracy and validity of such figures.

I am grateful to Mr. Alok Mukhopadhyay, Executive Director, Voluntary Health Association of India (VHAI) for requesting me to take up this challenging assignment - challenging in the sense that it was to be completed within a very short time. I would like to express my sincere thanks to all members of the Voluntary Health Association of Assam, in particular to Mr. D.C. Bhatt, Nandita and others. I deeply appreciate the courtesy and support extended by them as well as Mr. S.C. Das, Director, Ambarish Hotel and his staff, to me throughout my stay in Guwahati. I will fail in my duty if I do not thank Mr. Sanjay Sharma, Programme Officer, (VHAI) for his help in bringing out this document.

I have had the benefit of detailed discussions with some of the health professionals/ Administrators of the State, Dr. (Mrs.) T.Y. Das, I.A.S. (former Addl. Secretary, Health); Dr. (Mrs.)P. Dhar, Addl. Director Health Services and Nodal Officer for Family Welfare Schemes for NGOs; Dr. N. Das, Jt. Director (Malaria); Dr. B.K. Barua, Dy. Director (MCh); Dr. N. Bharali, Dy. Director (TB); Dr. S.N. Islam SLO; Mr. Sharma (Demographer); and Mr. R. Sharma. Dr. J.N. Chakravarthy, Dy. Director needs a special mention for taking the trouble of coordinating my meetings with them as well as giving me time for a detailed discussion with him on AIDS.

The document is based on these discussions, secondary data and several publications and mimeographed reports which were graciously made available to me. I take the opportunity to thank all.

Dr. Almas Ali

1. INTRODUCTION

Yardsticks Of Health

There has been a tremendous amount of scientific advancement in the field of curative medicine in the world, but as we enter the last decade of the century, we find that we are yet to evolve an accurate set of yardsticks to measure the health situation in a community. While traditional methods for measuring the health situation exist in the form of vital rates and morbidity studies, it is debatable as to how ideal, appropriate and sensitive these yardsticks are in the present context. The World Health Organisation (WHO) defines health "as a State of complete physical, mental and social well-being, and not merely absence of disease or infirmity". Such a holistic definition, makes it even more difficult for anyone to measure health using traditional yardsticks like vital rates and morbidity data.

Vital Rates And Morbidity Rates

Today, paradoxically,the methods adopted to measure health, infact measure the lack of health in a particular individual or community. Ideally in a community, the vital rates need to take into account both qualitatively and quantitavily, all the vital events in life. Vital rates have an important use in research, planning, monitoring and evaluation in the area of community health because they provide the only reliable measure of the state of health in groups of people and are in use as a standard measure all over the world.

The concept of morbidity should cover the entire community in a manner which guarantees consideration of all relevant and inter-related factors in the area of disease and ill health. However, it is unfortunate that comprehensive morbidity surveys (both at National and State levels) are woefully lacking.

Data concerning vital rates (available from Health Departments) are more reliable than morbidity figures as they cover the entire population. Moreover, the morbidity figures suffer from a great many limitations (e.g., 'fever' or 'cough' as diagnosis does not make a valuable contribution to the purpose of framing an accurate disease profile because these two symptoms are produced by a number of unrelated medical conditions). On the other hand, vital rates consider only births and deaths and keep us almost ignorant of what goes on in between these two extremes. However, they show the magnitude of human waste in the form of death and also point towards its location and causes.

The data (vital rates and causes of death surveys) from the Sample Registration Scheme (SRS), which are published from time to time by the Registrar General Office (RG's) are probably the best and the most reliable data currently being generated by different agencies.

Overall Situation

However, one cannot and perhaps should not only rely on statistics to summarise the health situation of a State like Assam where there is so much diversity - ethnic, physiographic, economic, socio-cultural. In certain cases, statistical averages can be very misleading and fail to communicate the real life situation. For example, in Assam there has been a substantial decline in mortality rates over the last decade (Crude Death Rate from 11.6 in 1980 to 9.7 in 1990 and Infant Mortality Rate from 103 in 1980 to 77 in 1990). This dramatic decline in mortality rates (if at all it has occurred, particularly in the case of infant mortality) would imply that the health situation in Assam has improved significantly.

However, we find that in reality the health picture of the State remains dismal and the survival standards are in no way better than in the so called BIMARU States. In Assam, disease is rampant; diarrhoeal and parasitic diseases afflict 70-75 percent of the population; viral hepatitis is common; upper respiratory infections and complications of pregnancy and child birth are other causes of morbidity; goitre is another health problem; anaemia amongst women and children is common as is Vitamin A deficiency amongst

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children. Prevalence rates of communicable diseases are also a matter of grave concern, tuberculosis and leprosy are two major communicable diseases in the State. Although the incidence of malaria had decreased substantially by the 1970s in Assam, there is now a huge resurgence of malaria. Malaria and Japanese encephalities are creating havoc with the lives of the poor population in some endemic pockets. Haemoglobinopathies are also prevalent in the State. The prevalence rate of HbE gene in Assam is the highest in the world. **Given the overall situation, the present health scenario of Assam is a matter of concern and deserving of urgent and concentrated action by all concerned.**

BACKGROUND INFORMATION 2.

Physical Features

The State of Assam is located in the North-east corner of India between the latitudes 24°.13′ - N and 28′ and the longitudes 89°.46′E and 96°.40′E. The total geographical area of the State is 78,438 sq. kms. The dominating feature in the topography of Assam is the course of the river Brahmaputra which has carved out its own valley between two parallel ranges, the Assam Himalayas in the North and the Central Assam Range, (better known as Shillong plateau) in the South. The other prominent feature is the Barak Valley through which flows the Barak river. However, five micro - regions have been delineated on the basis of topography, geology, soil, forest and climate, these are the (i) Western Brahmaputra Valley (ii) Central Brahmaputra Valley (iii) Eastern Brahmaputra Valley (iv) Cachar Plains and (v) Karbi-Anglong and North Cachar (N.C. Hills). Within this broad frame of five micro-regions, the entire State can further be delineated into 45 smaller regions. **These geographical peculiarities exert a great influence on the climate, rainfall, vegetation, food production, nutrition and ultimately on the health status of the people.**

People

Assam is the homeland of several ethnic groups, tribes, and sub-tribes (belonging to different racial stocks, viz Mongoloid, Dravidians, Aryans) who came from different directions and at different times in history and settled in Assam. There are as many as 23 tribal groups in the State; the Hill tribes, are concentrated in the districts of North Cachar Hills and Karbi Anglong; the Plains tribes, the Sonowal Kacharis and the Mishings are found in the districts of Upper Assam, the Bodo Kacharies in lower and middle Assam, the Rabhas and Lalungs in the districts of middle Assam. Some Garos and Khasis are also found in Assam though their homeland is in Mehalaya.

Assam is divided administratively into 23 districts, 44 sub-divisions and 146 blocks. The total population of Assam according to the 1991 census stands at 22,294,569. The density of population is 284 persons per sq.km compared to 267 per sq.km at the National level. At the District level, the density is the highest in Dhubri (467) followed by Kamrup (457) and Karimaganj (456). North Cachar Hills (31) has the lowest population density followed by Karbi Anglong (63) and Dhemaji (146). The population comprises of 11,579,693 males and 10,714,869 females, leading to a sex-ratio of 925 females per 1000 males. The highest sex-ratio is in Goalpara district (956) and the lowest in North Cachar Hills district (878). As the 1981 census was not conducted in this State, based on the 1971 census and 1991 census results, the population of 1981 was interpolated and, based on this, the decadal growth for Assam (during 1981-91) has been estimated at +23.58 percent.

The level of urbanization in Assam is very low with only 11.08 percent of the people living in urban areas. The literacy level in the State as per the 1991 census (provisional) figures is 53.42 percent with a male literacy rate of 62.34 percent and female literacy rate of 43.70 percent. There are 23.76 crores of people living below the poverty line i.e. about 30 percent of the total population.

HEALTH SITUATION

This chapter presents a brief overview of the health situation in Assam. We have deliberately not attempted to provide a very detailed analysis of these aspects as the document would have become too bulky. However, (not withstanding the uncertain character of the available information/data) a very comprehensive and exhaustive list comprising of 100 items has been generated and furnished in the table which follows. We have tried our best to incorporate the latest possible data/information which was available to us.

TABLE - I

SELECTED HEALTH AND RELATED INDICATORS
A S S A M

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
1.	Total Population	22,294,562	1991	Census (1991) (Provisional)
	Male :	11,579,693	-do-	-do-
	Female :	10,714,869	-do-	-do-
2.	Sex Ratio (Females per 1000 Males):	925	-do-	-do-
3.	Decennial Growth Rate (1981-91):	+ 23.58	-do-	-do-
4.	Area (in Sq.Kms)	78,438	-do-	-do-
5.	Density of Population: (per Sq.Km)	284	-do-	-do-
6.	%age of Urban population to Total Population:	11.08	-do-	-do-
7.	%age of Rural Population to Total Population:	88.92	-do-	-do-
8.	Literacy			
	Combined :	53.42	-do-	-do-
	Male :	62.34	-do-	-do-
	Female :	43.70	-do-	-do-
9.	Broad Age Distribution of Population in Years (Percentage to Total Population)		1988	Sample Registration System (SRS), 1988, Office of the Registrar General (R.G.)
	00-14 yrs	37.52		
	15-49 yrs	52.73		
	50 + yrs	9.75		

Sl. No	Item	Particulars	Year of Reference	Source
1	2	3	4	5
10.	Expectancy of Life at Birth:			Chen & Dasgupta as cited in the article "Health System & Services" by Alok Mukhopadhaya in Health for the Millions, Vol XVIII No. 2, 1992.
	Combined :	52	1990	
11.	Crude Birth Rate		1988	SRS, 1988, Office of the R.G.
	Combined :	32.9		
	Rural :	33.6		
	Urban :	24.6		
	Combined :	27.5	1990	SRS, 1990, Office of the R.G.
12.	Crude Death Rate		1988	SRS, 1988, Office of the R.G.
	Combined :	11.8		
	Rural :	12.1		
	Urban :	7.9		
	Male :	11.9		
	Female :	11.7		
	Combined :	19.7	1990	SRS, 1990, Office of the R.G.
13.	Infant Mortality Rate (IMR)		1988	SRS, 1988, Office of the R.G.
	Combined :	99		
	Rural :	101		
	Urban :	66		
	Male :	101		
	Female :	97		
	Combined :	77	1990	SRS, 1990, Office of the R.G.
14.	Peri-natal Mortality Rate:		1988	SRS, 1988, Office of the R.G.
	Combined :	59.7		
	Rural :	61.4		
	Urban :	30.7		
15.	Neo-natal Mortality Rate:		1988	-do-
	Combined :	64.9		
	Rural :	66.2		
	Urban :	42.0		

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
16.	Post Neo-natal Mortality Rate:	-do-	-do-	SRS, 1988, Office of the R.G.
	Combined :	34.4		
	Rural :	35.0		
	Urban :	23.5		
17.	Percentage of Infant Deaths to Total Deaths:	-do-	-do-	-do-
	Combined :	27.64		
	Rural :	28.02		
	Urban :	20.38		
18.	Percentage of Neo-natal Deaths to Total Infant Deaths:	69.65	-do-	-do-
19.	Percentage of Post-Neonatal Deaths to Total Infant Deaths:	30.35	-do-	-do-
20.	Death Rate for Children Aged 0-4 yrs:		-do-	-do-
	Combined :	37.2		
	Rural :	38.1		
	Urban :	21.0		
21.	Percentage of Death Among Children (0-4 yrs) to Total Deaths:		-do-	-do-
	Combined :	41.94		
	Rural :	42.68		
	Urban :	27.74		
22.	Death Rates for Children (5-14 yrs):		-do-	-do-
	Combined :	3.3		
	Rural :	3.4		
	Urban :	0.9		
23.	Death Rates for Age Group 15-34 Years:		-do-	-do-
	Combined :	3.3		
	Rural :	3.4		
	Urban :	1.5		

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
24.	Death Rates for Age Groups 35-49 Years:		1988	SRS, 1988, Office of the R.G.
	Combined :	8.0		
	Rural :	8.4		
	Urban :	4.2		
25.	Death Rates for Aged (50 yrs and Above):		-do-	-do-
	Combined :	37.6		
	Rural :	37.7		
	Urban :	38.8		
26.	Still Birth Rate		-do-	-do-
	Combined :	13.5		
	Rural :	13.9		
	Urban :	5.4		
27.	Maternal Mortality Rate: (MMR)	2.3 per 100 or 230 per Lakh	1991	Health Deptt., Govt. of Assam, 1991
28.	General Fertility Rate (GFR):		1988	SRS, 1988, Office of the R.G.
	Combined :	127.7		
	Rural :	130.8		
	Urban :	90.5		
29.	General Marital Fertility Rate (GMFR):		-do-	-do-
	Combined :	206.7		
	Rural :	210.6		
	Urban :	157.0		
30.	Age Specific Fertility Rate (ASFR):		-do-	-do-
	15-19 yrs	68.5		
	20-24 yrs	211.4		
	25-29 yrs	200.7		
	30-34 yrs	146.9		
	35-39 yrs	90.7		
	40-44 yrs	41.3		
	45-49 yrs	5.3		
31.	Age Specific Marital Fertility Rate (Rural) (ASMFR):		-do-	-do-
	15-19 yrs	364.8		

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
	20-24 yrs	371.0		
	25-29 yrs	263.6		
	30-34 yrs	170.6		
	35-39 yrs	102.7		
	40-44 yrs	49.2		
	45-49 yrs	7.2		
32.	Total Fertility Rate (TFR):		1988	SRS, 1988, Office of the R.G.
	Combined :	3.8		
	Rural :	3.9		
	Urban :	2.5		
33.	Total Marital Fertility Rate (TMFR):		-do-	-do-
	Combined :	6.6		
	Rural :	6.7		
	Urban :	6.1		
34.	Gross Reproduction Rate:		-do-	-do-
	Combined :	1.9		
	Rural :	1.9		
	Urban :	1.2		
35.	Couple Protection Rate:	28.2		
36.	Percentage of Rural Births by Type of Attendance:		-do-	-do-
	Institutional	10.7		
	Domiciliary: Attended by Trained Professionals	8.7		
	Domiciliary: Attended by Untrained Workers and Others	80.6		
37.	Percentage of Urban Births by Type of Attendance:		-do-	-do-
	Institutional	49.1		
	Domiciliary: Attended by Trained Professionals	13.6		
	Domiciliary: Attended by Untrained Workers and Others	37.3		

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
38.	Percentage of Combined Births by Type Medical Attention Received Before Death:		1988	SRS, 1988, Office of the R.G.
	Institutional	17.2		
	Attended by Qualified Medical Practitioner	9.6		
	Attended by Unqualified Medical Practitioner	73.2		
39.	Percentage of Rural Deaths by Type Medical Attention Received Before Death:		-do-	-do-
	Institutional	3.7		
	Attended by Qualified Medical Practitioner	56.4		
	Attended by Unqualified Medical Practitioner.	39.9		
40.	Percentage of Rural Deaths by Type Medical Attention Received Before Death:		-do-	-do-
	Institutional	19.4		
	Attended by Qualified Medical Practitioner	67.1		
	Attended by Unqualified Medical Practitioner	13.5		
41.	Percentage of Combined Deaths by Type Medical Attention Received Before Death:		-do-	-do-
	Institutional	5.8		
	Attended by Qualified Medical Practitioner	57.8		
	Attended by Unqualified Medical Practitioner.	36.4		
42.	Percentage Distribution of Deaths by Major Cause Group:		1989	Survey of Causes of Death (rural) Annual Report, 1989, Office of the R.G.
	Coughs	14.4		
	Senility	21.1		
	Fevers	4.8		
	Other Clear Symptoms	12.4		
	Accidents and Injuries	8.6		
	Digestive Disorder	16.3		

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
	Disease of Circulatory System	9.1		
	Causes Peculiar to Infancy	9.1		
	Disorder of Central Nervous System	1.4		
	Child Birth and Pregnancy	2.9		
43.	Percentage Distribution of Deaths Due to Selected Important Diseases		1989	Survey of Causes of Death (rural) Annual Report, 1989, Office of the R.G.
	Anaemia	1.4		
	Bronchitis and Asthma	5.7		
	Heart Attacks	6.2		
	Gastroenteritis	3.8		
	T.B. of Lungs	2.9		
	Vehicular Accidents	0.5		
	Cancer	4.3		
	Pneumonia	5.3		
	Acute Abdomen	1.9		
	Others	67.9		
44.	Percentage Distribution of Infant Deaths Under Major Cause Groups:		-do-	-do-
	Causes Peculiar to Infancy	65.5		
	Coughs	17.2		
	Accidents and Injuries	3.4		
	Digestive Disorders	10.3		
	Others	3.4		
45.	Number of Medical Colleges:	3	1991	Statistical Hand Book Assam, Directorate of Economics & Statistics, Govt. of Assam, 1991
46.	Number of Hospitals:	22	1992	Directorate of Health Govt. of Assam, 1992
47.	Number of Dispensaries:	318	-do-	-do-
48.	Number of CHCs:	82	-do-	-do-
49.	Average Rural Population Served by a CHC (in lakhs):	3.66	1991	Bulletin on Rural Health Statistics in India, for the quarter ending Dec. 1991, Ministry of Health & FW, Govt. of India.

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Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
50.	Average Rural Area Covered by a CHC (in Sq.Km.):	1318.96	1991	Bulletin on Rural Health Statistics in India, for the Quarter ending Dec. 1991, Ministry of Health and FW, Govt. of Assam, 1991
51.	Maximum Radial Distance covered by a CHC (in Km.):	20.48	-do-	-do-
52.	Average Number of Villages Served by a CHC:	372.11	-do-	-do-
53.	Number of PHCs:	509	1992	Directorate of Health, Govt. of Assam, 1992
54.	Average Rural Population Served by a PHC:	48890	1991	Bulletin on Rural Health Statistics in India, for the Quarter ending Dec. 1991, Ministry of Health & FW, Govt. of India, 1991.
55.	Average Rural Area Covered by a PHC (in Sq.Kms.):	176.06	-do-	-do-
56.	Maximum Radial Distance Covered by a PHC:	7.50	-do-	-do-
57.	Average Number of Villages Served by a PHC:	49.67	-do-	-do-
58.	Number of Sub-Centres:	5109	1992	Directorate of Health Govt. of Assam, 1992
59.	Average Rural Population Served by a Sub-Centre:	4228	1991	Bulletin on Rural Health Statistics in India, for the Quarter ending Dec. 1991. Ministry of Health & FW, Govt. of Assam, 1991
60.	Average Rural Area covered by a Sub-Centre (in Sq. Kms.):	15.23	-do-	-do-

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
61.	Maximum Radial Distance Covered by a Sub-Centre (in Sq.Kms.):	2.20	1991	Bulletin on Rural Health Statistics in India, for the Quarter ending Dec 1991, Ministry of Health and FW., Govt. of India
62.	Average Number of Villages Served by a Sub-Centre:	4.29	-do-	-do-
63.	Ratio CHC/PHC:	1:7.5	-do-	-do-
64.	Ratio of PHC/Sub-Centres:	1:11.5	-do-	-do-
65.	Number of RFWCs (Rural Family Welfare Centre):	146	1992	Directorate of Health, Govt. of Assam, 1992
66.	Number of MCWCs (Maternal & Child Welfare Centres):	73	-do-	-do-
67.	Number of Post Partum (PP) Centres:	40	-do-	-do-
68.	Number of MTP Centres:	35	-do-	-do-
69.	ANM Training Centres:	24	-do-	-do-
70.	LHV Training Centre:	1	-do-	-do-
71.	Health & Family Welfare Training Centre:	1	-do-	-do-
72.	Leprosy Training Centre:	1	-do-	-do-
73.	Total Health Officers:	3000	1992	
74.	Number of Doctors (in position) at PHCs:	584	1991	Bulletin on Rural Health Statistics in India, for the Quarter ending Dec. 1991, Ministry of Health & FW, Govt. of India
75.	Number of Health Assistants (Male) in Position:	793	-do-	-do-

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
76.	Number of Health Assistants(Female) or LHVs (Lady health Visitor):	431	1992	Health Directorate, Govt. of Assam,1992
77.	Number of BEEs (Block Extension Educators):	152	-do-	-do-
78.	Number of Health Educators:	254	-do-	-do-
79.	Number of Health Workers (Female) or ANMs (Auxillary Nurse-Midwife):	4470	1992	Health Directorate Govt. of Assam, 1992
80.	Number of Health Workers (Male) / MPW in Position:	3313	1991	Bulletin on Rural Health Statistics in India, for the Quarter ending Dec. 1991, Ministry of Health & FW, Govt. of India, 1991
81.	Ratio of Health Assistants (F) or LHV/Health Workers (F) or ANMs:	1:11.6	-do-	-do-
82.	Ratio of Health Assistants (M) Health Workers (M):	1:35.8	1991	Bulletin on Rural Statistics in India, for the Quarter ending Dec. 91, Ministry of Health & FW, Govt. of India, 1991
83.	Number of Pharmacists (Working in Rural Areas):	801	-do-	-do-
84.	Number of Lab. Technicians (Working in Rural Areas):	286	-do-	-do-
85.	Number of Radiographers (Working in Rural Areas):	59	-do-	-do-
86.	Number of Sanitary Inspectors:	70	1992	Directorate of Health, Govt. of Assam, 1992

Sl. No.	Item	Particulars	Year of Reference	Source
1	2	3	4	5
87.	Number of Surveillance Inspectors:	419	1992	Directorate of Health, Govt. of Assam, 1992
88.	Number of Malaria Inspectors:	133	-do-	-do-
89.	Number of Staff Tutors:	73	-do-	-do-
90.	Number of Staff Nurses:	1400	-do-	-do-
91.	Number of Teachers of ANM Training Centres:	866	-do-	-do-
92.	Total Number of Village Health/Guides (VHG):	20107	-do-	-do-
93.	Number of VHGs (Male):	8171	1991	Directorate of Health, Govt. of Assam, 1991
94.	Number of VHGs (Females):	11500	-do-	-do-
95.	Total Number of People Below Poverty Line:	23.76 Crores	1991	Statistical Survey, Govt. of Assam, 1991
96.	Percentage of People Below the Poverty Line:	29.9	-do-	-do-
97.	Number of Districts:	23	1991	Statistical Hand Book - Assam, Directorate of Economics & Statistics, Govt. of Assam, 1991
98.	Number of Subdivisions:	44	-do-	-do-
99.	Number of Blocks:	146	-do-	-do-
100.	Number of Inhabited Villages:	21995	-do-	-do-

Mortality And Morbidity Data

The above table is more or less self-explanatory. However, some important points have been discussed below in order to give a brief overview of the health situation in the State.

Birth-Rate is the most commonly used measure of fertility and in Assam as per the latest figures (1990 SRS), it stands at 27.5 (rural 28.1 and urban 20.7). In 1988 the figure was 32.9 (rural 33.6 and urban 24.6), which shows that in the period between 1988 and 1990 there has been a clear and

perceptible downward change. The present birth rate for the State of Assam 27.5, is even lower than the National figure of 29.9. The figures for other fertility indicators (GFR, GMFR, ASFR, ASFMR, TFR, TMFR AND GRR) have been furnished in Table - I (Item Nos 28-34), and the definitions have also been annexed (Annexure - V).

Information on **Distribution of Births by Type of Attention Before Delivery** is likely to be useful by way of indicating the extent of availability of institutional and professional medical help. In Assam over four fifths of the births (10.7%) are attended by untrained professionals and others. The figure for Kerala is 83.5 percent and the National figure is 21.5 percent.

There is a dramatic decline in the **Death-Rate** which was 17.3 in the early seventies (1970-72), 11.6 in 1988 and is now reported to be only 9.7 (1990 of SRS). If we look at the break up it is evident that it is the death rate in rural areas which has fallen steeply (from 18.0 in the early seventies to 9.9 in 1990), whereas urban figures (9.7 in 1972 to 6.9 in 1990) has not declined significantly. This fact provides perhaps some basis for concluding that under-reporting of deaths may be taking place in remote rural areas.

TABLE - II

INFANT MORTALITY RATES
ASSAM AND INDIA

Year	Rural		Urban		Combined	
	Assam	India	Assam	India	Assam	India
1	2	3	4	5	6	7
1980	105	124	64	65	103	114
1982	103	114	72	65	101	105
1984	98	113	75	66	97	104
1986	111	105	69	62	109	96
1988	101	102	66	62	99	94
1990	79	86	43	51	77	80

Source : Compiled from the Data from Sample Registration System (SRS), Office of the Registrar General (RG), India.

A close look at the **Infant Mortality Rate** (Table II) also shows a significant decline in the IMR figures during the last decade (from 103 in 1980 to 77 in 1990). However, before drawing any conclusion we need to assess the determinants which govern infant mortality, viz neo-natal mortality (upto 28 days) and the post-neonatal rate (from 28th day through 11 months). Interestingly, enough even though there is a dramatic decline in IMR the **Peri-Natal Mortality Rate** in Assam is very high (68.7), and includes foetal deaths beyond 28 weeks of gestation, deaths of infants at birth and infant deaths within seven days of birth. This is a very sensitive indicator reflecting standards of health care prior to and during pregnancy and child birth as well as effectiveness of social support to the vulnerable segments of the population. One of the causes of such deaths may be attributed to maternal origin. **Neo-Natal Rates** are also unusually high (even higher than the National figures and corresponding figures of other States) and the percentage of neo-natal deaths to total infant deaths in the case of Assam is about 65.38 percent. This particular component (neo-natal) of the IMR has remained rather stubborn and has hardly changed. Therefore it can be safely inferred that the decline in IMR (if at all it has occurred), is mainly on account of improvements in the Post-Neonatal period.

Paradoxically enough, the **Maternal Mortality Rate** is low i.e. 200-300 per lakh live births (Item 27, Table I). This figure again raises doubts about the reliability of estimates of current levels of MMR

in Assam. Though no systematic survey/study on maternal mortality has been conducted in Assam, the figures for female mortality upto the age of 35 years (particularly during the child bearing/ reproductive age 15-34) is high and the differentials (excess female mortality) is greatest in relative rather than numerical terms, compared to other age brackets. This is particularly striking and provides some insights about its relation to maternal mortality or maternal deaths which are either directly from complications related to pregnancy, delivery or their management;or indirectly on account of aggravation by pregnancy or child birth of an existing abnormal condition.

Comprehensive, reliable and current data on **Morbidity** in Assam is not available officially, (in the form of a published report of the Health Department/Directorate, Govt. of Assam), at present. However, in order to get an overview of the prevailing disease pattern in the State, we have made use of SRS data (Survey Causes of Death, 1989) and the summary results of a few field studies. Some of our observations are also based on detailed discussions which we have had with professionals in Assam.

A brief analysis of the mortality pattern based on SRS data reveals a few interesting facts. The **Percentage Distribution of Deaths by Ten Major Cause Groups** for the year 1989 is presented as Item No. 42 in Table I. The major cause groups 'senility' (21.1%), 'digestive disorders' (16.3%) 'coughs' (14.4%) and 'other clear symptoms' (12.4%) respectively, occupy the first four positions. As much as 16.3 percent of the deaths are because of 'digestive disorders' cause group, which is much higher than the all India figure of only 6.5 percent. This cause group comprises causes like gastroenteritis, diarrhoea, dyesentry etc. 'Cough' cause group which accounts for 14.4 percent of total reported deaths in Assam, includes tuberculosis of the lungs, upper respiratory tract infections, bronchitis, asthma, pneumonia, whooping cough and other diseases of the respiratory system. In analysing deaths due to ten selected important diseases, (Item No.43, Table I), bronchitis and pneumonia put together account for over 10 percent.

Some of the findings of selected field surveys were also analysed. A study conducted jointly by UNICEF, All India Institute of Hygiene and Public Health (AIIHPH) and Govt. of Assam (Patowary A.C., Deodhar N.C., on 'Health Conditions of Mothers and Children in Nine Districts of Assam') revealed that respiratory tract infections including influenza (27.44%) was the major cause of morbidity amongst children below 14 years. This was followed by diarrhoea (16.9%) and amoebic dyesentery (9.64%), helminthic infestations (10.10%), ear infection (8.88%), skin diseases (8.15%) and malarial fever (4.35%). The proportional death rate of females was higher than that of males. The proportional death rates by cause in order of magnitude were, convulsions (18.06%), respiratory diseases (11.09%), other infections (4.88%), diarrhoea and dysentry (3.79%), rheumatism (3.43%) and anaemia (3.23%). The same study also revealed that 14.51 percent of female children and 17.92 percent of male children had a high degree (severe) of malnutrition. Mild malnutrition among boys was 18.44 percent, while amongst girls it was 16.12 percent.

Other **Micro-Nutrient Deficiency Disorders** are also common in Assam Goitre is in no way a lesser health problem in Assam. According to a study (as cited in the paper 'Review of the Nutritional Scenario of Assam with special reference to endemic goitre, nutritional anaemia and Vit 'A' deficiency'), the prevalence rate in some of the districts are as follows: Dibrugarh (19%), Lakhimpur (34%), Sibsagar (13.2%), Nagaon (19.9%), Kamrup and Nalbari (16.5%), N.C. Hills (12.9%), Darrang (31.5%), Goalpara (40.2%) and Cachar (1.5%). In all the studies the prevalence rate of goitre amongst females was higher than males; in two recent studies one in Kamalapur area of Kamrup district the prevalence rate reported is 33.84 percent (Hazarika N.C.,Patowary A.C. and Patowary, 1992) and in the other in Nalbari area, the prevalence rate is reported to be 34.53 percent (DHS, Govt. of Assam).

Unfortunately there are very few studies on the prevalence of **Iron Deficiency Anaemia** in the State. A few studies conducted in 1982 revealed that in all the districts of Assam the prevalence of anaemia amongst women was significantly high. A recent study (Patowary A.C., 1990), showed that most of the pregnant women were suffering from anaemia and it was the biggest single problem amongst urban women. The scenario of **Vitamin A Deficiency** is equally poor. A study carried out by two Medical Colleges of Assam (sponsored by ICMR) showed that around 10 percent of the children in

primary school suffered from Vitamin A deficiency with Bitot spots. The following table summarises the Vitamin A deficiency situation in Assam.

TABLE - III

VITAMIN - A DEFICIENCY
ASSAM

1962	Retrospective	:	11.41% children below 12 years of age.
1970	Prospective study	:	Vitamin-A concentration 20 micro gram/ml. (normal 50 micro gram/ml).
1980	Field Study	:	11.27% in Rural Areas 19.2% in Tea Garden Labourers 8.27% in Urban Slums
	Male more than females. No. of cases more in large families.		

Source: Dutta L.C. cited in Patowary A.C.; Nutritional Review; 1990.

OVERVIEW

A broad overview of the health scenario in the State, mostly based on discussions with some of the key health professionals of the State government are now presented.

Over 70 - 75 percent of the diseases prevalent in the State are water related. Some of the communicable diseases are present throughout the year, for eg. various forms of diarrhoea and dyesentry, typhoid, worm infestations and viral hepatitis. Except for the two hill districts viz. Karbi Anglong and N.C. Hills, almost all the other districts are flood-prone. The health problems that occur during the floods are usually related to basic survival. Malnutrition and lack of potable drinking water are often manifested in gastroenteritis, leading to a higher mortality among children. According to most of the health professionals, diarrhoeal diseases are a killer. Available information also suggest that 30 percent of children under 5 years of age succumb to diarrhoea every year and during the monsoon the incidence of diarrhoea further increases. Acute respiratory infections (AIR), mostly pneumonia, contributes to about a fifth of mortality under five years of age. The other killer diseases of infancy and childhood are the following: measles, tetanus, tuberculosis infections, fevers like malaria, typhoid and hepatitis. **In the majority of fatal cases, the common underlying factor is malnutrition.**

The incidence of **Helminthic Infestations** in children is very high. The incidence of Ascaris is as high as 53.1 percent and of Hook Worm 40.2 percent (Sharma K.C., 1970).

Thus, it is clear that infections, parasitic diseases, diseases of digestive and respiratory systems which are either bacterial or viral in nature, constitute the main causes for in-patient admissions in hospitals and attendance at PHCs. Therefore, a pattern of environmental responsibility is clearly visible. Unsafe drinking water, lack of sanitation and malnutrition, as in the case of mortality are the main causes for the prevalence of diseases.

Other **Communicable Diseases** like malaria, Japanese encephalitis, tuberculosis (TB), leprosy, STD, continue to be major public health problems of the State.

Malaria is a major health problem in Assam. While it had declined considerably in the early seventies, there was a resurgence in the mid-seventies. The more severe form of malaria caused by Plasmodium Falciparum is found in Assam. Many strains have developed resistance to common drugs making treatment difficult and expensive. Some have also developed resistance to DDT spray.

The latest epidemiological data in relation to malaria (1976-1991) is furnished below.

TABLE - IV

EPIDEMIOLOGICAL DATA IN RELATION TO MALARIA ASSAM

Sl. No.	Particulars	1976	1988	1989	1990	1991 upto August.
1.	Total Positive in Nos.	148608	56296	62419	64871	80640
2.	No. of PF Including Mixed.	65738	35690	39888	38936	53528
3.	ABER ...	9.1	9.60	9.53	8.93	6.84
4.	SPR ...	10.2	2.62	2.87	3.12	5.00
5.	SFR ...	4.5	1.66	1.83	1.87	3.68
6.	%age of PF ...	44.2	63.36	63.90	60.02	66.37
7.	Death due to Malaria	44	4	6	16	33

Source: Status Report on NMEP - Assam; From Joint Director of Service (Malaria); Unpublished.

Japanese Encephalitis, also spread by mosquitoes, is emerging as a serious health problem in Assam. Since the mid-eighties, it has been found to occur every year in the North-Eastern regions of the State. The table below furnishes data on the number of cases, deaths and case fatality rates (1986 to 1991). Though the peak was recorded in 1989 with over 1300 cases, in 1987-88 the case fatality rates were over 50 percent. In 1991 the districts which were affected were Dibrugarh (123 cases and 57 deaths), North - Lakhimpur (118 cases and 22 deaths), Sibsagar (49 cases and 19 deaths) and Barpeta (1 case and 1 death).

TABLE - V

CASE, DEATHS AND CASE-FATALITY RATES DUE TO JAPANESE ENCEPHALITIS ASSAM

Year	Cases	Deaths	Case-Fatality Rate
1986	882	311	35.27%
1987	275	142	51.63%
1988	102	56	54.90%
1989	1310	453	34.58%
1990	281	116	41.28%
1991	291	99	34.00%

Source: Joint Director (Malaria); Health-Directorate; Unpublished.

ACTION AREAS FOR NGOs IN THE FIELD OF COMMUNITY HEALTH

4.

National Health Policy

The National Health Policy (NHP) recognises NGOs as a potential partner in the delivery of health services. It states in very clear terms:

- The services and support of NGOs active in the health field should be utilized and intermeshed with governmental efforts in an integrated manner.

- Organised efforts should be made to fully utilize and assist in the enlargement of the services being provided by NGOs in the health field (details Annexure IV).

NGO Strengths

It has been recognised by all, that NGOs are indispensable allies in the delivery of Primary Health Care. They can supplement government resources and efforts and also there is much to be learnt from their experiences, expertise and innovative ventures. Moreover, NGOs have considerable advantage over the government sector because of their personalised approach, motivation, responsiveness to people's needs and above all in their flexibility to experiment with innovative and alternative approaches to solving health problems.

As many of the major health problems of Assam are closely interlinked with poverty and under-development, the greatest health impact perhaps, will come not from medical interventions perse, but from health/non-health measures. These include safe water supply, improved nutrition through increased food security, female education including health and nutrition education (Annexure IV). The government should focus on a sub-set of simple health interventions like immunization, oral rehydration, diarrhoeal disease prevention/management and micro-nutrient supplementation - all of which do not rely heavily on improvements in health service delivery. The focus of this effort has to be mainly in rural areas/unserved/underserved pockets and on economically weaker sections.

Though the government is making efforts to meet the major health needs of the population, there are many areas, specifically certain social dimensions of health work which are grossly neglected or unrecognised in governmental efforts. In fact, it is this aspect which is the most significant part of the community health movement. These dimensions are:

- **Commitment to individual and community awareness building.**
- **Process of "community building" including increasing the participation of those who do not/ cannot participate at present.**
- **Quest for medical pluralism (including promoting traditional/indigenous systems of medicine).**
- **Acceptance of conflicts of interest within the community.**
- **Confrontation of various factors in the medical model of health care including over-medicalization of health, over-professionalization of skill and knowledge and over-emphasis on the physical dimension of health.**
- **Increasing commitment, accountability and medical audit.**

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Focus Of NGO Activities

The focus of NGO activities in the health field should be on minimising risk factors and involves:

*** Conservation of a healthy environment and provision of potable water supply.**

*** Improvement in the nutritional status and prevention of deficiency disorders.**

*** Educating pregnant and lactating mothers about Vitamin A and Iron deficiency disorders as also the supply of micro-nutrients (Iron, Folic Acid).**

*** Providing maternal health care which includes: antenatal, natal and postnatal care:**

- **education on maternal nutrition**
- **supply of micro-nutrients to pregnant mothers**
- **protection with tetanus toxoid**
- **screening of high risk pregnancies**
- **care during pregnancy and lactation**
- **training local village women to conduct low risk deliveries.**

***Infant and child health care**

- **education on maternal nutrition**
- **immunization**
- **control of diarrhoeal and acute respiratory infections**
- **identification and priority care of health risk infants**
- **promotion of breast feeding and weaning practices**
- **vitamin A prophylaxis.**

*** Family Planning - spacing of births.**

*** Communication, information and education on health.**

To elaborate on the first example of **Potable Water Supply** mentioned above, NGOs can play a vital role in this area in Assam. Their role should not be restricted to providing water and sanitary facilities to the community, but also to make people aware about the greater implications of such problems and motivate them to use and maintain these facilities. The specific role of the NGOs in this regard should therefore be the following:

* Communicate the concept of safe water and sanitation to motivators and the community.
* Advocate use of safe water and sanitation as a way of life and means to improve health and achieve a better quality of life.
* Make water and sanitation an integrated part of any development activity.
* Train local people to maintain/repair these facilities.
* Organise training/orientation courses at various levels directly relevant to the programmes of water and sanitation.
* Produce health education materials in local/regional languages to promote awareness among people about water and sanitation.

Involvement of community organisations and NGOs is essential to ensure a high level of Immunization coverage and low drop out rate. NGOs should play a major role in motivating parents to immunize their child.

One of the areas, where NGOs are reluctant to be involved is the area of **Population Control**. It can no longer be denied that the population problem is one of the most daunting problems facing the country today. However, the manner in which the programme is being implemented needs to be re-considered and alternative approaches discussed seriously. A comprehensive socio-

economic development agenda rather than a narrowly defined demographic approach appears necessary. Parental perceptions must be taken into account and self motivation must prevail over elements of compulsion. In this endeavour NGOs can play an important role.

NGOs can also play a useful role in pursuing **Health Education** efforts (Annexure IV) to strengthen the communities level of health awareness.

NGOs can endeavour to make **Health Services** not only responsive but accountable to the people. Micro-level experiences elsewhere in our own country have shown that the voluntary sector can create a demand for the health services provided by the government and ensure better utilization of available facilities and services. They should also mobilize adequate manning of health institutions (particularly in remote pockets/inaccessible areas), regular supply of drugs/medicines, vaccines and health information material and press for quality services. Right to Health **Information** also remains a dark area and NGOs can play a vital role in involving the community. Accountability can only be ensured when a vigilant community becomes an active and informed participant in the system instead of remaining an apathetic onlooker.

Thus NGOs should not only be involved in programme implementation but their potential as trainers, researchers, monitors and evaluators also need to be fully utilized.

Before I conclude, I would like to state that collaboration between the government and the NGOs need not remain a philosophical entity but can be operationalised in the context of Assam. The time has come and the stage is set for a close and a meaningful collaborative effort. The collaborative mechanism should be based on mutual trust and understanding and a spirit of co-operation. It is imperative therefore to move ahead from theory to practice, from concepts and principles to deeds. The hour of action therefore is not tomorrow but right now. This is the challenge before us.

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ANNEXURE - III

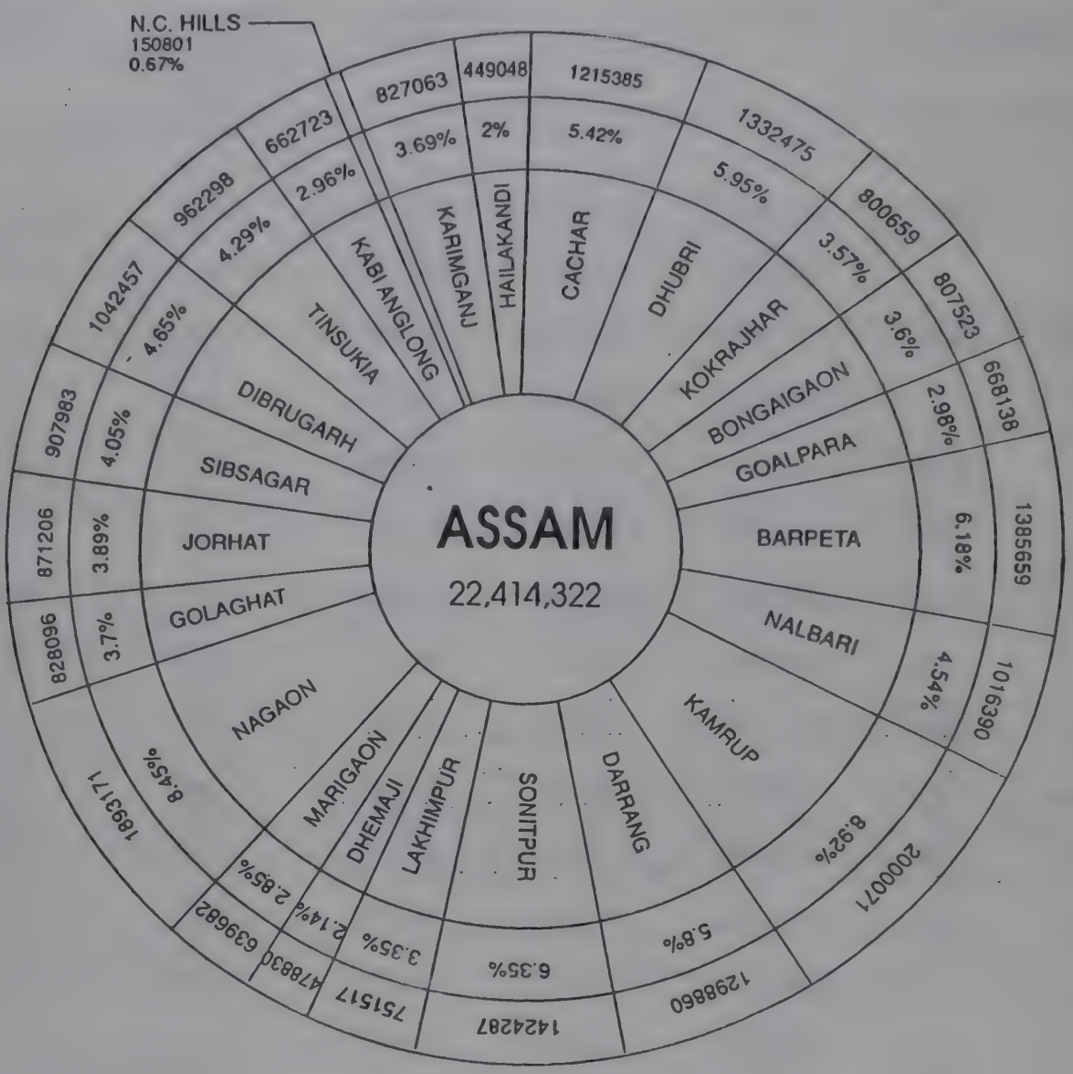
TABLE - VI

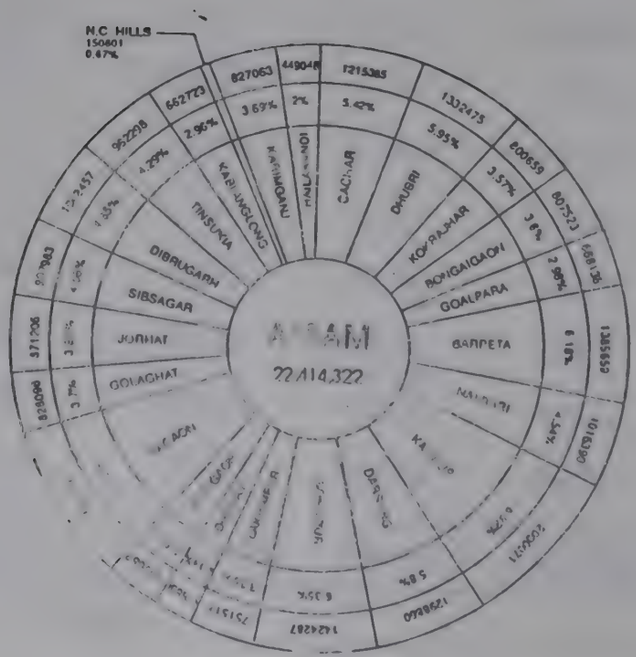
DISTRICT-WISE, AREA, POPULATION, SEX-RATIO AND DENSITY

Sl. No.	District	Area (in sq. Kms)	Persons	Population male	Population female	Sex-ratio (females per 1000) males	Density (per sq. km)
1	2	3	4	5	6	7	8
1.	Dhubri	2838	1,332,475	683,298	649,177	950	469
2.	Kokrajhar		800,659	412,600	388,059	940	N.A.
3.	Bongaigaon	7463	807,523	416,216	391,307	940	N.A.
4.	Goalpara		668,138	343,154	324,984	947	N.A.
5.	Barpeta	3245	1,385,659	714,677	670,982	938	427
6.	Nalbari	2257	1,016,390	524,953	491,437	936	450
7.	Kamrup	4345	2,000,071	1,064,649	935,422	878,	460
8.	Darrang	3481	1,298,860	670,244	628,616	937	373
9.	Sonitpur	5324	1,424,287	744,778	679,509	912	267
10.	Lakhimpur	2277	751,517	389,125	362,392	931	330
11.	Dhemaji	3237	478,830	248,457	230,373	927	147
12.	Marigaon	5535	639,682	329,613	310,069	940	N.A.
13.	Nagaon	-	1,893,171	981,379	911,792	929	N.A.
14.	Golaghat	3502	828,096	431,346	396,750	919	236
15.	Jorhat	2851	871,206	455,525	415,681	912	305
16.	Sibsagar	2668	907,983	476,009	431,974	907	340
17.	Dibrugarh	3381	1,042,457	547,266	495,191	904	308
18.	Tinsukia	3790	962,298	508,948	453,350	890	253
19.	Karbi-Anglong	10434	662,723	347,607	315,116	906	63
20.	N. Cachar Hills	4888	150,801	81,196	69,605	857	30
21.	Karimganj	1809	827,063	425,018	402,045	945	457
22.	Hailakandi	1237	449,048	232,735	216,313	929	363
23.	Cachar	3786	1,215,385	629,196	586,189	931	321
	Assam	78438	22,414,322	11,657,989	10,756,333	922	285

NOTE: * As the 1981 census was not conducted in Assam, based on the 1971 and 1991 Census Provisional Results those for 1981 were interpolated and based on these revised estimates (figures), the decadal growth rate (1981-91) for Assam has been estimated as +23.58. However, the growth rate (for Assam (as a whole and district-wise figures) cited in the above table is for the period 1971-91.

"NA Stands for not available (due to non-availability of confirmed district areas).





RECOGNISING THE NGO - NATIONAL HEALTH POLICY 1982

5. ... 'that the planning and implementation of the various health programmes is through the organised involvement and participation of the community, adequately utilizing the services being rendered by private voluntary organisations active in the Health Sector'

8.1 ... "There are a large number of private voluntary organisations active in the health field all over the country, their services and support would require to be utilized and intermeshed with governmental efforts in an integrated manner".

8.7 ... "With a view to reducing governmental expenditure and fully utilizing untapped resources, planned programmes may be devised, related to local requirements and patients ... to encourage increased investment by non-governmental agencies in establishing curative centres and by offering organised logistical, financial and technical support to voluntary agencies active in the health field".

8.12 ... "Organised efforts would require to be made to fully utilize and assist in the enlargement of the services being provided by private voluntary organisations active in the health field. In this context, planning, encouragement and support would also require to be afforded to fresh voluntary efforts, specially those which seek to serve the needs of the rural areas and the urban slums.

RECOGNISING EDUCATION AS A PREREQUISITE FOR HEALTH - NHP, 1982

"The recommended efforts, on various fronts, would bear only marginal results unless nation-wide health education programmes, backed by appropriate communication strategies are launched to provide health information in an easily understandable form, to motivate the development of an attitude for healthy living. The public health education programmes should be supplemented by health, nutrition and population education programmes in all educational institutions, at various levels. Simultaneously, efforts would require to be made to promote universal education, specially adult and family education, without which the various efforts to organise preventive and promotive health activities, family planning and improved maternal and child health cannot bear fruit.

SOME IMPORTANT DEFINITIONS

Crude Death Rate	:	Annual number of deaths per 1000 population.
Crude Birth Rate	:	Annual number of live-births per 1000 population.
Sex - Ratio	:	The number of females per 1000 males.
Infant Mortality Rate	:	Annual number of deaths of infants under one year of age per 1000 live births.
Neonatal Mortality Rate	:	Annual number of infants dying (NMR) within the first month of life (technically 4 weeks, i.e. under 28 days) per 1000 live births.
Under-5-Mortality Rate	:	Annual number of deaths of (U-5MR) children under five years of age per 1000 live births.
Life Expectancy at Birth	:	The number of years new born children would live if subject to the mortality risks prevailing for the cross-section of population at the time of their birth.
Maternal Mortality Rate	:	Annual number of deaths of women from pregnancy related causes per 100,000 live births.
Low-birth Weight	:	2,500 gms or less
Age Specific Fertility Rate	:	The average number of children born (ASFR)alive during the last year per woman of a particular age group.
Age Specific Marital	:	The average number of children born Fertility (ASFMR)alive during the last year per married woman of a particular age group.
General Fertility Rate	:	The number of children born alive during the last year per 1000 woman of child bearing age. (The child bearing age in the 1981 tabulation is 15 - 49 and in the 1971 tabulation it is 13 - 47).
General Marital Fertility	:	The number of children born alive Rate (GMFR)during the last year per 1000 married women of child bearing ages. (The child bearing age in the 1981 tabulation is 15 - 49 and in the 1971 tabulation it is 13 - 47).
Total Fertility Rate	:	Total number of children that would have been alive per woman had the current schedule of age specific fertility rates been applicable for the entire re-productive period. It is calculated as the sum of the age specific fertility rates in a five year age group multiplied by five.
Total Marital Fertility Rate	:	Total number of children that would (TMFR)have been born alive per married woman had the current schedule of age specific marital fertility rates been applicable for the entire re-productive period. It is calculated as the sum of age specific marital fertility rates in a five year age group multiplied by five.
Gross Reproduction Rate	:	Average number of daughters that would be born to a woman if she experiences the current fertility pattern through out her reproductive span (15-49 years).

The Voluntary Health Association of India (VHAI) is a non-profit registered society formed by the federation of Voluntary Health Associations organised at the level of States and Union Territories. VHAI links over 3000 grassroots-level organisations and community health programmes spread across the country.

VHAI's primary objectives are to promote community health, social justice and human rights related to the provision and distribution of health services in India.

VHAI fulfils these objectives through campaigning, policy research, and press and parliament advocacy; through need-based training and provision of information and documentation services; and through production and distribution of innovative health education materials and packages, in the form of print and audio-visuals, for a wide spectrum of users — both urban and rural.

VHAI tries to ensure that a people-oriented health policy is formulated and effectively implemented. It also endeavours to sensitise the larger public towards a scientific attitude to health, without ignoring India's natural traditions and resources.

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